years) was used; after 8 years, patients were assumed to only be at risk for death. Costs and outcomes were discounted at 3.5% per annum. Sensitivity analyses were performed to identify influential parameters in the model. **RESULTS:** Undiscounted mean life expectancy for patients treated with FOLFOX4 was estimated at 15.9 years. Assuming the addition of bevacizumab reduces the risk of relapse by 23% in the first 3 years after surgery, as described in the protocol, and by 10% in the following 5 years, mean survival was estimated to increase to 18.1 years (10.8 to 12.1 years when discounted). The discounted ICER was £19,939/life year gained. Sensitivity analysis showed that assumptions relating to the magnitude of the relapse risk reduction and the duration of risk reduction were the most critical determinants of the ICER. **CONCLUSIONS:** Addition of bevacizumab to FOLFOX4, the current standard regimen for patients with stage III colon carcinoma, is expected to improve clinical outcomes and to be a cost-effective treatment option from a UK perspective.

PCN40

COST-EFFECTIVENESS OF TREATMENT WITH TRASTUZUMAB IN PATIENTS WITH EARLY BREAST CANCER FROM THE PORTUGUESE SOCIETAL PERSPECTIVE

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OBJECTIVES: The purpose of this study is to estimate the cost-effectiveness (CE) of 1-year trastuzumab treatment *versus* standard care (observation following standard adjuvant chemotherapy) in early stage breast cancer (eBC) patients in Portugal. **METHODS:** A 5-state Markov model with annual transition cycles was developed to estimate the long term health and economic outcomes of eBC patients based on HERA clinical trial results. The model included the following health states: disease free survival, recurrence, metastasis, cardiac events and death. The model assumes a hypothetical patient cohort similar to those of HERA study. The evaluation assumes both the health care payer and societal perspectives. Portuguese NHS resource use and costs were estimated from a consensus experts panel and published unit costs, respectively, including cancer therapy costs, adverse cardiovascular events treatment costs, disease diagnosis and management costs and indirect costs (time off of work). Outcomes were discounted at 3% *per annum*. One-way sensitivity analysis was performed on the discount rate, quality of life estimates and non-trastuzumab treatment costs. **RESULTS:** Treatment with trastuzumab was estimated to increase discounted life expectancy by 2.11 in years (14.95 *vs* 12,84) and quality-adjusted life expectancy by 2.01 QALYs compared to standard care. Direct and indirect costs were projected to be €61.839 and €19,759 with trastuzumab and €40,559 and €25.391 with standard of care. These results corresponded to ICERs of €10,067 and €10,595 assuming direct costs only and of €7789 and €7400 including indirect costs, per life year gained (LYG) and per QALY gained, respectively. **CONCLUSIONS:** The 1-year trastuzumab use as adjuvant therapy in HER-2 positive eBC patients improves survival and can be considered a cost effective therapy with a high degree of certainty in the Portuguese setting.

PCN41

ECONOMIC EVALUATION OF TRASTUZUMAB FOR THE ADJUVANT TREATMENT OF HER2 POSITIVE EARLY BREAST CANCER IN THE NETHERLANDS

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OBJECTIVES: To obtain a Dutch cost-effectiveness estimate of trastuzumab in early breast cancer, based on a previous UK model-based cost-effectiveness analysis. Trastuzumab is a humanized monoclonal antibody against the HER2-receptor extracellular domain. **METHODS:** Following the model transferability assessment, required adjustments were made. In a Markov cohort model, 1 year adjuvant trastuzumab therapy was compared to observation. Model outcomes are life years, quality-adjusted life years (QALYs), health care costs, and cost of productivity loss. The cycle length is one year, the time horizon is lifetime. UK prices were replaced by updated Dutch unit prices. Clinical input data originated from the HERA-trial; health utilities were obtained from literature. The impact of parameter uncertainty was assessed using age subgroup analyses, one-way sensitivity analyses and probabilistic sensitivity analysis. Subsequently, we conducted expected value of perfect information analyses. **RESULTS:** In The Netherlands, from a health care perspective the ICER for trastuzumab for a 55 year old patient was estimated at €19,463/QALY. From a societal perspective the ICER became €14,867. As expected, ICERs improve with younger age. Sensitivity analyses showed that the ICER was sensitive to the time horizon and the costs for the metastasic health state. **CONCLUSIONS:** Overall the Dutch cost-effectiveness estimate of trastuzumab for early stage breast cancer can be well described and is well below the Dutch informal threshold of €80,000/QALY. For the base case analysis the probability that the ICER is acceptable for thresholds above €27.000/QALY is 1, indicating a probability of zero for a wrong decision. Hence, for thresholds above €27,000 the expected value of information is zero. This analysis provided an early cost-effectiveness indication of trastuzumab in the adjuvant setting in The Netherlands and has led to the provisional reimbursement. The transferability assessment is addressed in a separate abstract.

PCN42

A SENSITIVITY ANALYSIS ON THE COST UTILITY OF BEVACIZUMAB, CAPECITABINE, AND OXALIPLATIN COMPARED WITH FOLFOX FOR THE TREATMENT OF METASTATIC COLORECTAL CANCER (CRC): A UK PERSPECTIVE

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OBJECTIVES: Bevacizumab recently received a revised marketing authorisation for use in CRC that states "Bevacizumab in combination with fluoropyrimidine-based chemotherapy is indicated for treatment of patients with metastatic carcinoma of the colon or rectum". This means that bevacizumab can be used in combination with a wider choice of therapies than previously allowed. This revised indication was based on the NO16966 phase III trial, which evaluated the efficacy of bevacizumab in combination with capecitabine + oxaliplatin (XELOX). **METHODS:** A health state transition model was constructed to estimate patient survival, stratified between progression-free sur-

vival (PFS) and progressive disease, using a parametric extrapolation of the NO16966 phase III trial survival data. The predicted time spent in each health state was weighted using published CRC utility scores to account for patient quality of life and to estimate the Quality Adjusted Life Years (QALYs) for both bevacizumab + XELOX and FOLFOX. One-way sensitivity analysis was performed in order to evaluate the uncertainty around the base case estimate of the incremental cost effectiveness ratio (ICER) for bevacizumab + XELOX compared with FOLFOX. Uncertainty surrounding the parameters of the model was evaluated by modifying the costs and parametric survival assumptions. **RESULTS:** The base case cost per QALY was estimated to be £25,806. The highest ICER was observed when only a 2-year time horizon was taken (£35,241); this, however, does not capture all the costs and benefits of the interventions. The ICER for the scenario in which 100% of FOLFOX patients did not require an inpatient stay was £31,669 and decreased to £14,431 when full sensitivity analysis of the administration costs was performed. **CONCLUSIONS:** This sensitivity analysis illustrated that the combination of bevacizumab and XELOX demonstrated a stable ICER. Substantial cost savings and health benefits gain through the use of capecitabine and oxaliplatin in combination with bevacizumab showed to be a cost-effective treatment strategy.

PCN43

MODELING THE COST-EFFECTIVENESS OF PROSTATE CANCER TREATMENT WITH PARTICLE THERAPY

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OBJECTIVES: Radiotherapy (RT) with charged particles, protons and carbon ions (c-ions) offers clinical advantages in cancer treatment compared to conventional RT with photons, including better tumor control and/or less side-effects. The costs of particle therapy (PT) are however, much higher then of the photon therapy. Therefore, the cost-effectiveness of PT as opposed to the best current photon therapy was examined. **METHODS:** In a cost-effectiveness Markov model the prostate cancer treatments with (A) c-ions and (B) photons were evaluated. The outcomes were survival, quality adjusted survival and costs. The therapy effects and quality of life estimates were derived from the literature. Toxicity of treatment was taken into account. Direct medical costs were assigned. The RT costs were based on an extensive cost analysis. The time horizon of the model was 10 years. The analyses were run for a cohort of 70 year old. The study was performed from the health care perspective. **RESULTS:** The expected total health care costs per patient over 10 years were: A) €22,880, and B) €13,550. The expected life years were 8.78 and 8.68, respectively. The difference in the clinical effects became larger, when quality of life was accounted for. The quality of life adjusted life years (QALY's) were A) 7.82 and B) 7.59. Extra costs per QALY gained were €40,170 (up to €65,000 in a sensitivity analysis). **CONCLUSIONS:** The preliminary results indicate that with a threshold of €80,000 per QALY, treatment with c-ions is cost-effective (for age 70). The model will be further adapted. Firstly, treatment with protons will be included. Secondly, analyses will be performed for different age and risk categories. Thirdly, the probability that the different treatment modalities are cost-effective, given the existing uncertainty, will be assessed. Finally, an expected value of perfect information (EVPI) analysis will be conducted.

PCN44

COST MINIMIZATION ANALYSIS OF ADVANCED GASTRIC CANCER TREATMENT WITH CAPECITABINE/CISPLATIN (XP) VS. 5-FU/CISPLATIN (FP) REGIMENS IN POLISH SETTING

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OBJECTIVES: Evaluation of costs of oral capecitabine and cisplatin (XP) treatment vs. intravenous 5FU and cisplatin (FP) infusion from public payer's perspective in Poland. **METHODS:** Based on systematic review of medical databases similar clinical efficacy for compared treatment options was proved. Therefore a cost minimization analysis was performed to identify costs and estimate potential benefits of 5FU/cisplatin replacement with capecitabine/cisplatin scheme, from public payer perspective. Efficacy and safety data were derived from clinical trial published by Y.Kang et al. (JCO, 2006 ASCO Annual Proceedings). A pharmacoeconomic model was used to compare costs of these two therapies. Costs of alternative therapies were estimated based on clinical results on actual dose and number of administrations. Clinical experts panel estimated typical treatment patterns and costs of treating major AEs in Poland. **RESULTS:** Mean duration of hospitalization in XP arm was 5.11 days and in FP arm was 22.15 days. The substitution of 5-FU infusion by oral capecitabine reduced the number of hospitalization days per cycle. Drug administration costs were significantly higher on FP scheme (8800PLN) in comparison to XP (1515PLN). Total drug cost per patient on XP scheme was 6384. 41PLN (1 PLN = 3.4 EUR) and 708.20PLN on FP scheme. AE profiles were similar. Total costs (drug, administration and AE) was lower for XP scheme, generating 1614.12PLN savings per patient/year. Sensitivity analysis was conducted for number of patients treated with 5FU/cisplatin requiring intravenous access and for the drug reimbursement level. Reimbursement level doesn't influence conclusions drawn from the basic analysis. Change in percentage of patients requiring intravenous access influence the conclusions (breaking point 43%). **CONCLUSIONS:** Replacing 5FU/cisplatin scheme with capecitabine/cisplatin in treatment of advanced gastric cancer patients from public payer in Poland is cost saving.

PCN45

ECONOMIC ANALYSIS OF THE CLINICAL OUTCOMES OF SURGICAL THERAPY (COST) TRIAL COMPARING LAPAROSCOPICALLY-ASSISTED COLECTOMY (LAC) WITH OPEN COLECTOMY (OC) FOR COLON CANCER

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OBJECTIVES: The randomized COST trial revealed no significant differences in clinical or quality-of-life endpoints between LAC and OC for stage I-III colon cancer. We conducted a cost-minimization analysis from a third-party payer perspective to test for differences in costs between procedures from surgery through 2 months of follow-up. **METHODS:** Resource use was collected on all patients, including: inpatient and ICU days, reoperations, surgery and anaesthesia times, use of laparotomy and laparoscopic instruments, cartridges, reusable and disposable trocars, and outpatient visits for surgery-related complications. Professional services were valued based on Medicare reimbursement rates; all other unit costs were derived from charges adjusted by ratios-of-costs-to-charges for patients treated at two centers, one academic (A) and one community (C). 21% of patients assigned